

Smart Cards Are Barely A Blip On Airlines' Radar.

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By Lynn Koller

Several airlines are using simple chip cards to speed passengers through airports. But more sophisticated smart cards remain in a holding pattern.

Airlines are trying out many technologies that could make flying less of a hassle. While business is booming, the airlines are trying to defuse passenger anger over frequent delays and hoping to keep Web-based ticketing services from provoking constant fare wars.

Kiosks now allow many travelers to get boarding passes without waiting in line at ticket counters. Chicago-based United Air Lines, for instance, has deployed kiosks that allow passengers to identify themselves by swiping magnetic-stripe credit or debit cards. In several French airports, kiosks designed by French smart card and terminal manufacturer Schlumberger Ltd. allow frequent travelers to use smart cards as well as mag-stripe cards to check in for Air France flights.

Airlines also have given chip cards a try. Inexpensive chip cards that just identify a passenger are turning up in growing numbers. The more expensive and fully featured smart cards have had little success. That could change in the future, particularly if airlines turn to biometrics to verify the identity of passengers.

The hunt for passenger-friendly technology comes at a time when airlines are serving more passengers than ever, 1.7 billion worldwide last year, according to the International Civil Aviation Organization. That United Nations agency predicts 5.5% growth this year.

At the same time, consumers are turning to Internet services for low-priced tickets. That trend appears likely to continue, as Cambridge, Mass.-based research firm Forrester Research predicts more than 40% of online U.S. households will use the Web to book travel in 2004.

Few things make air travelers happier than skipping lines at ticket counters, and that is why more airlines are offering self-service kiosks for check in. But such kiosks still require that passengers identify themselves and get a boarding pass.

Helsinki-based Finnair began last fall testing a chip card that makes boarding even easier. In a project called eGate, a passenger with a reservation can walk straight through the gate with no ticket, identification, or even human contact, just by waving the contactless card past a reader. The reader transmits card information to the departure control system.

While the card carries a chip, the chip merely carries identifying data and does not have the sophisticated microprocessor of a smart card that could accept new application software. The Finnair cards use a technology known as radio frequency identification, or RFID. Chip and reader communicate via radio signals, and the chip need not come into contact with a reader. RFID chips cost as little as 20 cents, whereas smart cards typically range from \$3 to \$10.

Wooping Business Travelers

Finnair is issuing the chip cards to customers in its corporate frequent flyer program, MultiFlyE. About 400 travelers use the cards, which have been well received, says Taneli Hassinen, financial information officer at Helsinki-based Finnair.

There have been few glitches, although the radio signal occasionally is blocked by a mobile battery pack or a metal briefcase. "Our experience has been pretty positive on this product and we're ready to enlarge the usage," says Hassinen.

Originally deployed at two domestic gates, eGate will be expanded to all domestic gates, and made available to other corporate customers and to members of Finnair's Premier Plus program, Hassinen says.

Oy Ideos Ltd., based in Kuopio, Finland, provided the system, which cost about \$200,000, the supplier says. Finnair did not comment on the system's cost.

In an earlier use of RFID cards, Sabena SA and Swissair, a unit of SairGroup AG, have issued about 85,000 cards to frequent flyers for use at the Zurich airport. The cards allow automatic check-in for passengers with only carry-on luggage.

A departure control system advises customs agents that the passenger will not present a boarding pass. Multiple cards can be read at once, so several passengers may pass through gates simultaneously.

Philips Semiconductors, based in Eindhoven, the Netherlands, developed the technology called I-Code. Sabena/Swissair plans to eventually offer the service at airports in Brussels and Geneva.

Smarter Cards

There have been several experiments with more sophisticated, microprocessor-based smart cards that never made it to rollout.

For instance, Lufthansa German Airlines several years ago issued the ChipCard to its frequent flyers and Senator Card members.

Travelers could use the ChipCard, a contact card, to pay for calls at pay phones in Germany, as a Visa or MasterCard credit card, a frequent flyer card, and as a membership card for executive lounges. The card also used an RFID chip for boarding.

Industry sources say Lufthansa issued 130,000 cards. A spokesperson says the airline has discontinued the card, and declined to comment further. Peter Harrop, chairman of London-based Idtechex Ltd., a consulting firm that specializes in RFID cards, says the program was discontinued due to the cost of the cards—around \$10 apiece.

American Express piloted smart cards with American Airlines in 1996 and Continental in 1997 that expedited ticketing and boarding for business travelers. The cards could also be used at self-service check-in kiosks in eight Hilton Hotels. Both programs ended in 1998.

An American Express spokesperson says the pilots showed that business travelers found smart cards useful. She says the airline cards helped pave the way for AmEx to roll out its first smart card in 1999, the chip-based Blue card, which AmEx subsequently has offered in several other countries.

Another smart card test was launched in early 1999, when U.S. Bancorp of Minneapolis issued Visa-branded chip-based credit cards to employees of Siemens Corp., a unit of Siemens AG of Munich, Germany. The aim of the pilot was to see if the smart cards helped get Siemens employees discounts previously negotiated with hotels, rental car companies and other travel services.

While that program has been discontinued, Heather Gray, vice president of consumer credit products at Visa U.S.A., says Visa continues to evaluate opportunities for smart cards in the travel industry. "We think there are tremendous opportunities to bring the power of chip technology to simplify the customers' travel experiences," Gray says.

Kiosks Do The Job

But when it comes to fast check-in, electronic tickets have left little room for smart cards, says Dave Paylor of the UK-based travel consultancy Equinus. Paylor says that smart cards are more likely to be used in loyalty programs, such as storing drink coupons.

Several airline officials seem to back up Paylor's comments. Scott O'Leary, manager of eService programs at Houston-based Continental Airlines, says the airline is pleased with the 310 automated kiosks, called eService Centers, it has introduced. The kiosks let passengers check in, print boarding passes for same day travel, and make flight changes. Approximately 60% of Continental's passengers use electronic tickets, of which almost 25% check in at kiosks.

O'Leary says smart cards could play a role when Continental deploys kiosks under development that will offer drink and movie coupons, and the ability to check-in for an entire journey even when changing airlines. O'Leary says smart cards could store flight upgrades and drink coupons. But smart cards must wait, he says as Continental focuses on expedited check-in.

Like Continental, Chicago-based United Air Lines Inc. is studying, but not deploying, smart cards, says Dan Black, director of e-commerce systems at United NetWorks, a subsidiary of United Airlines. He says United has addressed customer convenience with its check-in kiosks and its Proactive Paging Service. The latter allows passengers who register on United's Web site to receive e-mail notifications of gate changes, delays and cancellations via Internet-enabled mobile phones and Palm handheld computers.

One airline using a true smart card is London-based British Airways, which compensates passengers for canceled flights or giving up their seat with a smart card, instead of cash. The airline launched the card in 1999, and uses it at 100 of the 150 airports that British Airways flies to. The program was developed by CardBase Technologies, located in Dublin, Ireland.

When passengers are inconvenienced, British Airways issues them a smart card loaded with value in up to 25 currencies, according to Inez Cooper, vice president of customer services at CardBase. Each card costs the airline around \$3, and can be reused.

Cooper says the airline reduces its cash-handling costs and gets back some of the money it gives passengers. Cooper says 17% of value is not cashed in before the cards expire.

Besides storing monetary value or drink coupons, smart cards potentially have a role to play in conjunction with biometrics, which are showing up more and more at airports. Biometrics identify individuals by a physical characteristic, such as their finger or hand print. A digitized version of the characteristic is stored at enrollment and used for comparison when the individual later seeks to authenticate himself.

Canadian airports announced recently they will allow frequent visitors to enter the country without identifying themselves to immigration officials by stopping at an iris-recognition kiosk. Iris-recognition also is used to identify employees at airports in Charlotte, N.C., and Frankfurt, Germany, using technology from EyeTicket Corp., based in McLean, Va.

Smart cards allow a passenger to keep the enrollment image with them. A passenger inserts a smart card into a reader, places her finger on a scanner, and the system compares the scan with the card data, verifying that the individual is the legitimate cardholder. The alternative is to store the biometric on a database at a host computer, which can take longer to search and which may not always be available.

An industry initiative that envisions using biometrics to identify air travelers in the future initially assumed smart cards would carry the biometric data. The program is called Simplifying Passenger Travel, or SPT, and has been developed by the Geneva-based International Air Transport Association

But with many travelers carrying other devices that could store biometric data, such as handheld computers, IATA officials no longer are convinced that smart cards will be required. "We started with a vision statement for SPT that included the words 'smart card.' Now we've changed it to 'multifunctional device,'" says Melanie Lauckner, program manager for SPT.

A Wireless Test

Dallas-based Sabre Inc. began testing in March a program called Wireless Check-In that illustrates how smart cards could be bypassed. Travelers register at the Web site of Indianapolis-based America Trans Air Inc., provide personal information and answer security questions. Afterward, the system calls the traveler to capture a voice imprint.

Registered users with a reservation can call the airline and identify themselves by their voice. The system sends out a bar code to the passenger's Internet-enabled wireless phone or PDA. The device displays the bar code at the gate, allowing the passenger to board. The wide use of such devices as Palm Pilots and cell phones could thus push smart cards out of the airlines' plans.

The hope for FlySmart cards may well rest with the multiapplication chip cards that smart card vendors have been promoting to credit card issuers and banks. Convenience programs for air travelers would be an obvious enhancement. But without significant launches of such multipurpose cards in the next year or two, smart card-based airline programs may never take off.